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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,860	01/25/2007	Kyu Young Kim	K-0800	6863
34610	7590	09/26/2007		
KED & ASSOCIATES, LLP P.O. Box 221200 Chantilly, VA 20153-1200			EXAMINER LEUNG, PHILIP H	
			ART UNIT 3742	PAPER NUMBER
			MAIL DATE 09/26/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/575,860	<b>Applicant(s)</b> KIM, KYU YOUNG	
	<b>Examiner</b> Philip H. Leung	<b>Art Unit</b> 3742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 4-14-2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>1-25-2007</u> . | 6) <input type="checkbox"/> Other: ____.  |

**DETAILED ACTION**

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
2. The drawings filed 4/14/2006 are objected to by the Examiner because Figures 1 and 2 should be designated by a legend such as --Prior Art-- or --Related Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claim 1, the phrase "such as" at line 4 renders the claim indefinite because it is unclear whether the limitations "a magnetron, a high voltage transformer" following the phrase are part of the claimed invention. See MPEP § 2173.05(d). Clarification and correction are required.

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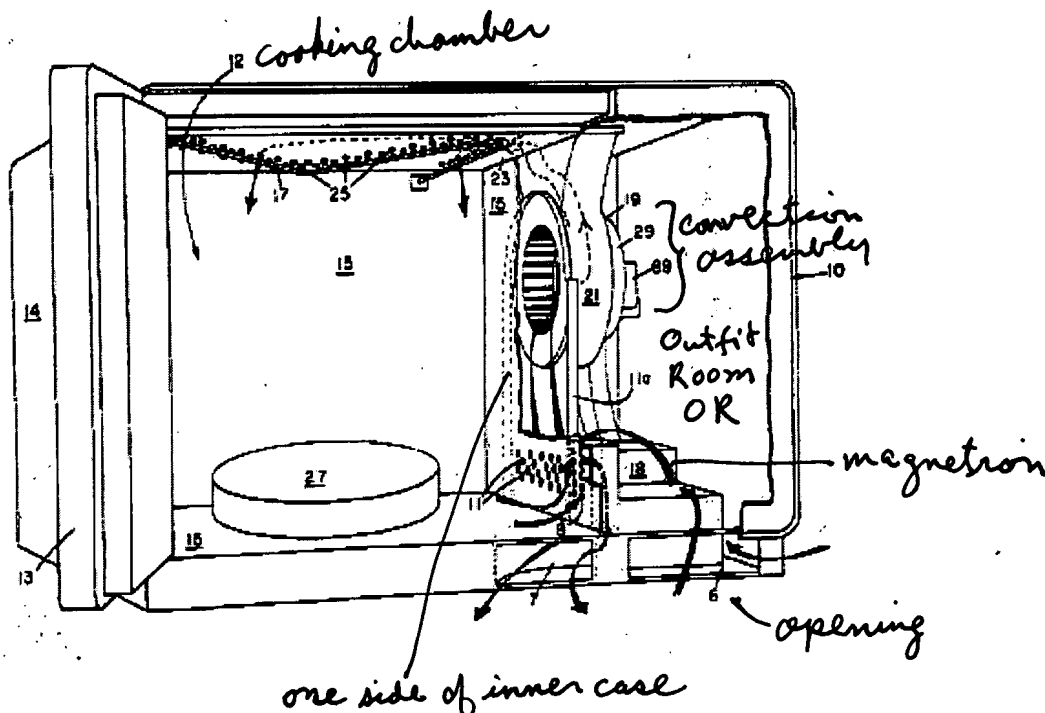
5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 2 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Larsen et al (US 4,332,992).

Larsen shows a microwave oven comprising: a body 10 forming an outer appearance; an inner case 15 in the body having a cooking chamber 12 formed therein; an outfit room (marked as OR) at one side of the inner case, having various electric parts, such as a magnetron 18, a high voltage transformer 92, mounted therein; and a convection assembly (19, 21, 29) mounted at a side of the inner case, for transmitting heat to the cooking chamber (see the marked-up copy of Figure 1 below).



In regard to claim 2, as shown in the drawing above, the convection assembly is in the outfit room (OR). In regard to claim 6, it also shows an opening 6 as claimed.

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 2-4 and 7-20 are rejected under 35 U.S.C. 103(a) as being obvious over Larsen et al (US 4,332,992), in view of Takeshita (JP 5-144561).

As set forth above, Larsen shows every feature as claimed except for the location of the cooling fan. Takeshita shows a microwave oven having an outfit room including a magnetron 15, a transformer 16 and a cooling fan 3 located on an upper surface at a rear corner of the outfit room (as claimed in claims 3, 4). It also shows holes 21 in the bottom of the of the oven body and an exhaust opening 22 in an upper surface of the body (as claimed in claims 9, 12 and 16) (see Figures 1 and 2 and the English abstract). It would have been obvious to an ordinary skill in the art at the time of invention to modify Larsen to locate a cooling fan at the upper rear corner

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of the outfit room (OR) to more efficiently cool the electric components in the outfit room in order to form a compact size oven and reduce noise, in view of the teaching of Takeshita. The exact location of the fan and the air inlet and outlet holes would have been a matter of engineering expediency depending on the overall relative location of all the oven components, such as the electric heaters, the convection assembly, the microwave generating components and the power supply system.

9. Claim 5 is rejected under 35 U.S.C. 103(a) as being obvious over Larsen et al (US 4,332,992), in view of Takeshita (JP 5-144561), as applied to claims 2-4 and 7-20 above and further in view of Idomoto (JP 2-244586).

As set forth above, Larsen combined with Takeshita shows every feature as claimed except for the use of a tilted cooling fan. Idomoto shows a microwave oven having an outfit room including a magnetron 4, a transformer 9, electric motor 5 and a cooling fan 2 which is tilted toward these heat generating components (see Figure 3 and the English abstract). It would have been obvious to an ordinary skill in the art at the time of invention to modify Larsen combined with Takeshita to tilt the cooling fan toward the heat generating components for more efficient and better cooling result, in view of the teaching of Idomoto.


10. Yang (US 5,945,023) is further cited to show a microwave oven with a cooling fan 134 located in the upper rear corner of the outfit room.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip H. Leung whose telephone number is (571) 272-4782.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu Hoang can be reached on (571)-272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Philip H Leung  
Primary Examiner  
Art Unit 3742

P.Leung/pl  
9-21-2007